

Sanctuary Condition Reports

Supporting
System-Wide Monitoring
(SWiM)



Water Quality



Habitat



Living Resources

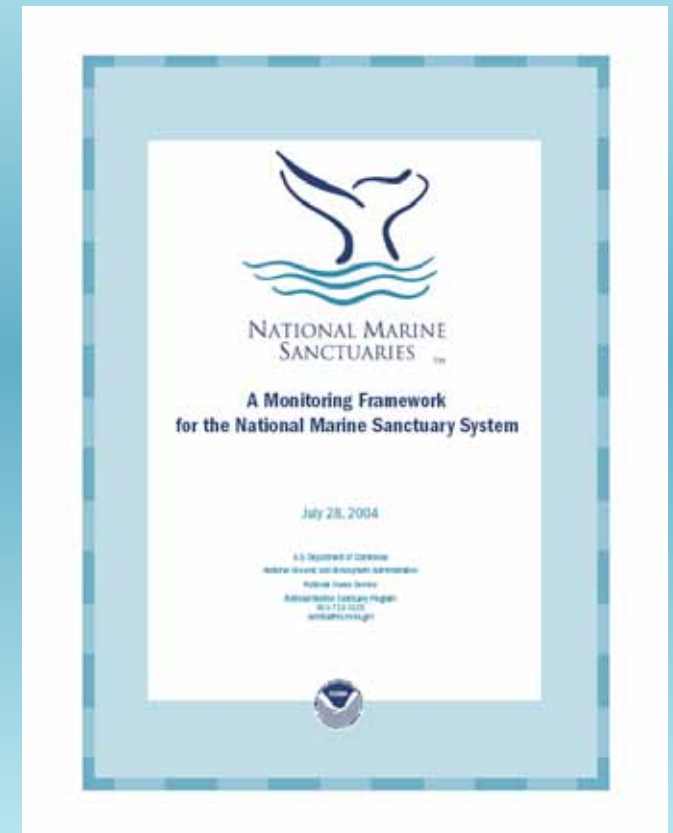


Maritime Archaeological Resources

SWiM Highlights

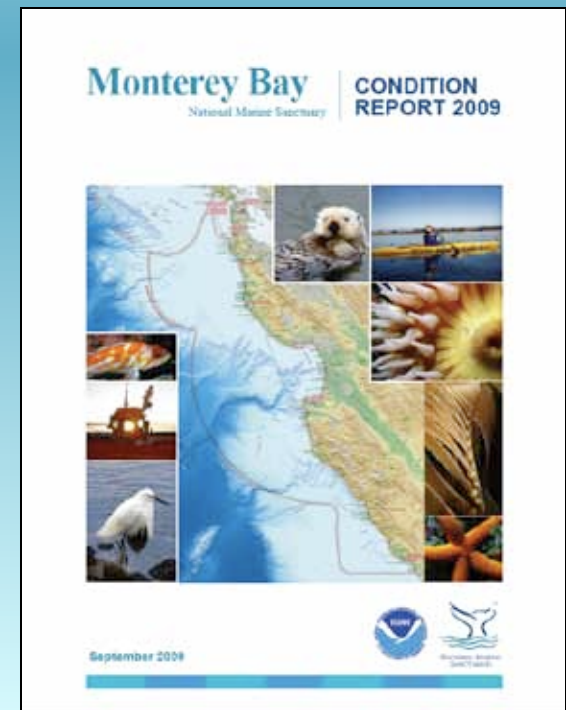
“A Monitoring Framework for the National Marine Sanctuary System”

- Consistent approach to the design and reporting process of monitoring programs for all sites that enables integration of information into a system-wide monitoring product.
- Tailored monitoring at the local level to track and report the status and trends of natural and cultural resources and human uses.



Condition Reports

- Goals of Report:
 - Assess the condition of the site and the system
 - Determine if system is achieving its resource protection and improvement goals as reflected in program performance measures
- Summary of:
 - MBNMS resources
 - pressures on those resources
 - current status and trends
 - management responses



Who is the Audience?

- A reporting tool for policy makers, particularly within NOAA and DOC
- Complements new management plan by identifying issues for priority attention
- Identifies information gaps for research and management
- Portions of condition report can be used as education and outreach products



Condition Reports Structure

- Site History & Resources
- Pressures (Stressors & Issues) on the Sanctuary
- Status & Trends (State) of Sanctuary Resources
- Sanctuary's Response to Pressures
- Literature Cited
- Appendices - Explanation of Standardized Questions
Report Development and Review Process



Photo: R. Schwemmer

Condition Reports Structure

- Site History & Resources
- Pressures (Stressors & Issues) on the Sanctuary
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Photo: R. Schwemmer

Pressures

- Coastal development and population growth
- Pollutants and contaminants
- Marine debris
- Commercial and recreational fishing
- Vessel traffic
- Non-native species



Condition Reports Structure

- Site History & Resources
- Pressures (Stressors & Issues) on the Sanctuary
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- Literature Cited
- Appendices - Explanation of Standardized Questions
Report Development and Review Process



Status and Trends

- 17 standardized questions
- 4 resource categories:
 - Water Quality (4)
 - Habitat (4)
 - Living Resources (6)
 - Maritime Archaeological Resources (3)
- “status & trends” reporting system developed by



NATIONAL MARINE
SANCTUARIES

ONMS

Status:

GOOD	GOOD/ FAIR	FAIR	FAIR/ POOR	POOR	UNDET.
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Trends:

|||||

Conditions appear to be improving

—

Conditions do not appear to be changing.

?

Conditions appear to be declining.

N/A

Undetermined trend.

Question not applicable.

Standardizing the Questions

Water Stressors

1. Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?

This is meant to capture shifts in condition arising from certain changing physical processes and anthropogenic inputs. Factors resulting in regionally accelerated rates of change in water temperature, salinity, dissolved oxygen, or water clarity could all be judged to reduce water quality. Local disposal, and living can affect light penetration and resource quality. Hydrocarbons, heavy metals, and pesticides can affect living resources. Certain biotoxins, such as domoic acid, can affect living resources. Some of these contaminants can affect marine life by direct contact or ingestion, or through bioaccumulation via the food chain.

[Note: Over time, accumulation in sediments can sequester and concentrate contaminants. Their effects may manifest only when the sediments are resuspended during storm or other energetic events. In such cases, reports of status should be made under Question 7 - Habitat contaminants.]

Description of Findings Statements

Good	Conditions do not appear to have the potential to negatively affect living resources or habitat quality.
Good/Fair	Selected conditions may preclude full development of living resource assemblages and habitats, but are not likely to cause substantial or persistent declines.
Fair	Selected conditions may inhibit the development of assemblages, and may cause measurable but not severe declines in living resources and habitats.
Fair/Poor	Selected conditions have caused or are likely to cause severe declines in some but not all living resources and habitats.
Poor	Selected conditions have caused or are likely to cause severe declines in most if not all living resources and habitats.



NATIONAL MARINE
SANCTUARIES

Description of findings statement for a given status rating (e.g., Good) is specific to the question being asked

Available in Appendix A



Habitat Structure

6. What is the condition of biologically structured habitats and how is it changing?

Good	Habitats are in pristine or near-pristine condition and are unlikely to preclude full community development.
Good/Fair	Selected habitat loss or alteration has taken place, precluding full development of living resources, but it is unlikely to cause substantial or persistent degradation in living resources or water quality.
Fair	Selected habitat loss or alteration may inhibit the development of living resources and may cause measurable but not severe declines in living resources or water quality.
Fair/Poor	Selected habitat loss or alteration has caused or is likely to cause severe declines in some but not all living resources or water quality.
Poor	Selected habitat loss or alteration has caused or is likely to cause severe declines in most if not all living resources or water quality.

Living Resources Biodiversity

9. What is the status of biodiversity and how is it changing?

Good	Biodiversity appears to reflect pristine or near-pristine conditions and promotes ecosystem integrity (full community development and function).
Good/Fair	Selected biodiversity loss has taken place, precluding full community development and function, but it is unlikely to cause substantial or persistent degradation of ecosystem integrity.
Fair	Selected biodiversity loss may inhibit full community development and function, and may cause measurable but not severe degradation of ecosystem integrity.
Fair/Poor	Selected biodiversity loss has caused or is likely to cause severe declines in some but not all ecosystem components and reduce ecosystem integrity.
Poor	Selected biodiversity loss has caused or is likely to cause severe declines in ecosystem integrity.

Living Resources Key Species

12. What is the status of key species and how is it changing?

Good	Key and keystone species appear to reflect pristine or near-pristine conditions and may promote ecosystem integrity (full community development and function).
Good/Fair	Selected key or keystone species are at reduced levels, perhaps precluding full community development and function, but substantial or persistent declines are not expected.
Fair	The reduced abundance of selected keystone species may inhibit full community development and function and may cause measurable but not severe degradation of ecosystem integrity; or selected key species are at reduced levels, but recovery is possible.
Fair/Poor	The reduced abundance of selected keystone species has caused or is likely to cause severe declines in some but not all ecosystem components, and reduce ecosystem integrity; or selected key species are at substantially reduced levels, and prospects for recovery are uncertain.
Poor	The reduced abundance of selected keystone species has caused or is likely to cause severe declines in ecosystem integrity, or selected key species are at severely reduced levels, and recovery is unlikely.

System-wide 'Report Card'

Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
-	Conditions do not appear to be changing.				
?	Conditions appear to be declining.				
N/A	Undetermined trend.				
	Question not applicable.				

Status of Resources		Pacific Islands Region			West Coast Region							Southeast Region			Northeast Region		
		Papahānaumokuākea	Hawaiian Islands Humpback Whale	Fagatele Bay	Olympic Coast	Cordell Bank	Gulf of the Farallones		Monterey Bay		Channel Islands	Gray's Reef	Florida Keys	Flower Garden Banks	Stellwagen Bank	Monitor	Thunder Bay
WATER																	
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality and how are they changing?	GOOD	GOOD/FAIR	FAIR	FAIR/POOR	FAIR/POOR	GOOD/FAIR	FAIR	GOOD	GOOD	FAIR/POOR	UNDET.	FAIR	GOOD	GOOD	GOOD	
2	What is the eutrophic condition of sanctuary waters and how is it changing?	GOOD	GOOD	GOOD	GOOD	GOOD	FAIR	FAIR	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	
3	Do sanctuary waters pose risks to human health and how are they changing?	GOOD	GOOD	FAIR	GOOD	GOOD	FAIR	FAIR	FAIR	FAIR	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	
4	What are the levels of human activities that may influence water quality and how are they changing?	GOOD	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	
HABITAT																	
5	What is the abundance and distribution of major habitat types and how is it changing?	GOOD	GOOD	FAIR	GOOD	FAIR	GOOD	GOOD	FAIR	GOOD	FAIR	FAIR	GOOD	GOOD	GOOD	GOOD	
6	What is the condition of biologically structured habitats and how is it changing?	GOOD	N/A	GOOD	FAIR	FAIR	FAIR	FAIR	FAIR	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	FAIR	
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	GOOD	GOOD	GOOD	GOOD	FAIR	FAIR	FAIR	GOOD	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	
8	What are the levels of human activities that may influence habitat quality and how are they changing?	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	
LIVING RESOURCES																	
9	What is the status of biodiversity and how is it changing?	GOOD	GOOD	GOOD	FAIR	FAIR	GOOD	GOOD	FAIR	FAIR	FAIR	FAIR	GOOD	GOOD	GOOD	FAIR	
10	What is the status of environmentally sustainable fishing and how is it changing?	GOOD	N/A	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	FAIR	GOOD	N/A	
11	What is the status of non-indigenous species and how is it changing?	FAIR	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	
12	What is the status of key species and how is it changing?	FAIR	GOOD	FAIR	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	FAIR	GOOD	FAIR	
13	What is the condition or health of key species and how is it changing?	FAIR	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	FAIR	
14	What are the levels of human activities that may influence living resource quality and how are they changing?	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	
MARITIME ARCHAEOLOGICAL RESOURCES																	
15	What is the integrity of maritime archaeological resources and how is it changing?	GOOD	GOOD	N/A	FAIR	FAIR	FAIR	FAIR	FAIR	FAIR	GOOD	N/A	GOOD	N/A	GOOD	GOOD	
16	Do maritime archaeological resources pose an environmental hazard and is this threat changing?	GOOD	FAIR	N/A	GOOD	FAIR	GOOD	GOOD	GOOD	GOOD	GOOD	N/A	GOOD	N/A	GOOD	GOOD	
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	GOOD	GOOD	N/A	FAIR	FAIR	FAIR	FAIR	FAIR	GOOD	GOOD	GOOD	GOOD	N/A	GOOD	GOOD	

Status and Trends Process at MBNMS

- Held scientific workshops in May 2007:
 - Completed **Condition Tables** with judgements on status and trends
 - Received information for inclusion in the **State of the Sanctuary Resources** section
- Four sessions - one for each resource category
 - Water Quality
 - Habitat
 - Living Resources
 - Maritime Archaeological Resources



Status and Trends Science Workshops

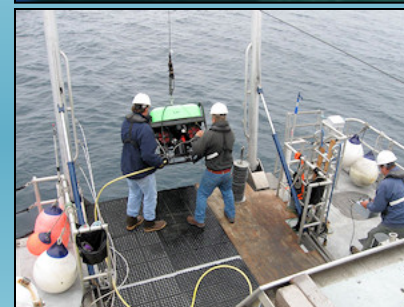
- Scientist studying the resources were invited
 - Academic, agency, non-profit organizations, industry consultants
- Questions were answered for 3 environments
 - **Estuary** (Elkhorn Slough)
 - **Nearshore** (shoreline to 30 meter isobath)
 - **Offshore** (30 meter isobath to offshore boundary)
- Process
 - Discuss/debate meaning of the questions, ratings, and availability of data
 - Agree to a judgment on the status and trend
 - Express basis for judgment for supporting text



Status and Trends

Supporting Text

- A summary of findings based on available monitoring and characterization data, expert opinion
- Not the place for presenting bulk monitoring data
- No monitoring data was collected to specifically answer these questions
- Quantitative data were not available to address some questions



Review

1. Initial: workshop participants

2. Invited

- Workshop invitees
- Advisory councils: SAC, RAP
- Agencies: ONMS region, NMFS, CDFG

3. Peer-review

- Required by OMB - Influential Scientific Information
- Review Requirements
 - Disclosure of comments – posted on web site
 - Disclosure of reviewers

Final ratings determined by sanctuary staff



Status and Trend Ratings

Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
—	Conditions do not appear to be changing.				
—	Conditions appear to be declining.				
?	Undetermined trend.				
N/A	Question not applicable.				

Summary Table

- Each row is a question
- Status and trend rating for 3 environments
 - Offshore
 - Nearshore
 - Estuarine
- Remember definition of the status rating differs for each question



#	Questions/Resources	Offshore Rating	Nearshore Rating	Estuarine Rating
WATER				
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	—	—	—
2	What is the eutrophic condition of sanctuary waters and how is it changing?	—	—	—
3	Do sanctuary waters pose risks to human health?	?	?	?
4	What are the levels of human activities that may influence water quality and how are they changing?	—	?	?
HABITAT				
5	What is the abundance and distribution of major habitat types and how is it changing?	?	—	—
6	What is the condition of biologically-structured habitats and how is it changing?	?	—	—
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	—	—	—
8	What are the levels of human activities that may influence habitat quality and how are they changing?	—	?	—
LIVING RESOURCES				
9	What is the status of biodiversity and how is it changing?	?	?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	—	—	—
11	What is the status of non-indigenous species and how is it changing?	—	—	—
12	What is the status of key species and how is it changing?	—	—	—
13	What is the condition or health of key species and how is it changing?	—	—	?
14	What are the levels of human activities that may influence living resource quality and how are they changing?	—	—	?
MARITIME ARCHAEOLOGICAL RESOURCES				
15	What is the integrity of known maritime archaeological resources and how is it changing?	?	?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?	—	—	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?	—

Offshore and Nearshore

Generally rated
Good to Fair

- Monitoring of **nearshore habitats** indicate generally healthy conditions and populations



Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
—	Conditions do not appear to be changing.				
—	Conditions appear to be declining.				
?	Undetermined trend.				
N/A	Question not applicable.				

#	Questions/Resources	Offshore Rating	Nearshore Rating
WATER			
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	—	—
2	What is the eutrophic condition of sanctuary waters and how is it changing?	—	—
3	Do sanctuary waters pose risks to human health?	?	?
4	What are the levels of human activities that may influence water quality and how are they changing?	—	?
HABITAT			
5	What is the abundance and distribution of major habitat types and how is it changing?	?	—
6	What is the condition of biologically-structured habitats and how is it changing?	?	—
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	—	—
8	What are the levels of human activities that may influence habitat quality and how are they changing?	—	?
LIVING RESOURCES			
9	What is the status of biodiversity and how is it changing?	?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	—	—
11	What is the status of non-indigenous species and how is it changing?	—	—
12	What is the status of key species and how is it changing?	—	—
13	What is the condition or health of key species and how is it changing?	—	—
14	What are the levels of human activities that may influence living resource quality and how are they changing?	—	—
MARITIME ARCHAEOLOGICAL RESOURCES			
15	What is the integrity of known maritime archaeological resources and how is it changing?	?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?	—	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?

Offshore and Nearshore

Generally rated
Good to Fair

- Monitoring of **nearshore habitats** indicate generally healthy conditions and populations

- Few **non-native species** present, though some spread in the **nearshore** environment



Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
—	Conditions do not appear to be changing.				
—	Conditions appear to be declining.				
?	Undetermined trend.				
N/A	Question not applicable.				

#	Questions/Resources	Offshore Rating	Nearshore Rating
WATER			
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	—	—
2	What is the eutrophic condition of sanctuary waters and how is it changing?	—	—
3	Do sanctuary waters pose risks to human health?	?	?
4	What are the levels of human activities that may influence water quality and how are they changing?	—	?
HABITAT			
5	What is the abundance and distribution of major habitat types and how is it changing?	?	—
6	What is the condition of biologically-structured habitats and how is it changing?	?	—
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	—	—
8	What are the levels of human activities that may influence habitat quality and how are they changing?	—	?
LIVING RESOURCES			
9	What is the status of biodiversity and how is it changing?	?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	—	—
11	What is the status of non-indigenous species and how is it changing?	—	—
12	What is the status of key species and how is it changing?	—	—
13	What is the condition or health of key species and how is it changing?	—	—
14	What are the levels of human activities that may influence living resource quality and how are they changing?	—	—
MARITIME ARCHAEOLOGICAL RESOURCES			
15	What is the integrity of known maritime archaeological resources and how is it changing?	?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?	—	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?

Offshore and Nearshore

Generally rated
Good to Fair

However

- **water quality nearshore** reduced in some areas and during some seasons by inputs of nutrients and contaminants; warnings/closures due to pathogens or biotoxins



Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
—	Conditions do not appear to be changing.				
—	Conditions appear to be declining.				
?	Undetermined trend.				
N/A	Question not applicable.				

#	Questions/Resources	Offshore Rating	Nearshore Rating
WATER			
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	—	—
2	What is the eutrophic condition of sanctuary waters and how is it changing?	—	—
3	Do sanctuary waters pose risks to human health?	?	?
4	What are the levels of human activities that may influence water quality and how are they changing?	—	?
HABITAT			
5	What is the abundance and distribution of major habitat types and how is it changing?	?	—
6	What is the condition of biologically-structured habitats and how is it changing?	?	—
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	—	—
8	What are the levels of human activities that may influence habitat quality and how are they changing?	—	?
LIVING RESOURCES			
9	What is the status of biodiversity and how is it changing?	?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	—	—
11	What is the status of non-indigenous species and how is it changing?	—	—
12	What is the status of key species and how is it changing?	—	—
13	What is the condition or health of key species and how is it changing?	—	—
14	What are the levels of human activities that may influence living resource quality and how are they changing?	—	—
MARITIME ARCHAEOLOGICAL RESOURCES			
15	What is the integrity of known maritime archaeological resources and how is it changing?	?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?	—	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?

Offshore and Nearshore

Generally rated
Good to Fair

However

- **water quality nearshore** reduced in some areas and during some seasons by inputs of nutrients and contaminants; warnings/closures due to pathogens or biotoxins

- History of trawl fishing offshore has reduced **habitat quality offshore**



Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
—	Conditions do not appear to be changing.				
?	Conditions appear to be declining.				
?	Undetermined trend.				
N/A	Question not applicable.				

#	Questions/Resources	Offshore Rating	Nearshore Rating
WATER			
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	GOOD	GOOD
2	What is the eutrophic condition of sanctuary waters and how is it changing?	GOOD	GOOD
3	Do sanctuary waters pose risks to human health?	?	?
4	What are the levels of human activities that may influence water quality and how are they changing?	GOOD	?
HABITAT			
5	What is the abundance and distribution of major habitat types and how is it changing?	?	—
6	What is the condition of biologically-structured habitats and how is it changing?	?	—
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	GOOD	GOOD
8	What are the levels of human activities that may influence habitat quality and how are they changing?	FAIR	?
LIVING RESOURCES			
9	What is the status of biodiversity and how is it changing?	?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	GOOD	GOOD
11	What is the status of non-indigenous species and how is it changing?	—	GOOD
12	What is the status of key species and how is it changing?	—	—
13	What is the condition or health of key species and how is it changing?	GOOD	—
14	What are the levels of human activities that may influence living resource quality and how are they changing?	GOOD	GOOD
MARITIME ARCHAEOLOGICAL RESOURCES			
15	What is the integrity of known maritime archaeological resources and how is it changing?	?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?	GOOD	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?

Estuarine - Elkhorn Slough

Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
—	Conditions do not appear to be changing.				
—	Conditions appear to be declining.				
?	Undetermined trend.				
N/A	Question not applicable.				

Generally rated
Fair to Poor

Long history of human activity and alteration has caused

- increased inputs of nutrients and pollutants
- high rates of erosion and habitat conversion
- high percentage of non-native species



#	Questions/Resources	Estuarine Rating
WATER		
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	□
2	What is the eutrophic condition of sanctuary waters and how is it changing?	—
3	Do sanctuary waters pose risks to human health?	?
4	What are the levels of human activities that may influence water quality and how are they changing?	?
HABITAT		
5	What is the abundance and distribution of major habitat types and how is it changing?	□
6	What is the condition of biologically-structured habitats and how is it changing?	□
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	□
8	What are the levels of human activities that may influence habitat quality and how are they changing?	—
LIVING RESOURCES		
9	What is the status of biodiversity and how is it changing?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	□
11	What is the status of non-indigenous species and how is it changing?	—
12	What is the status of key species and how is it changing?	□
13	What is the condition or health of key species and how is it changing?	?
14	What are the levels of human activities that may influence living resource quality and how are they changing?	?
MARITIME ARCHAEOLOGICAL RESOURCES		
15	What is the integrity of known maritime archaeological resources and how is it changing?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	—

Maritime Archaeological Resources

Generally rated
Good to Fair

- Non-renewable resources that are easily damaged
- Very little directed study to assess condition
- Resources containing hazardous material continue to deteriorate



Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
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—	Conditions appear to be declining.				
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N/A	Question not applicable.				

#	Questions/Resources	Offshore Rating	Nearshore Rating	Estuarine Rating
WATER				
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?			
2	What is the eutrophic condition of sanctuary waters and how is it changing?			
3	Do sanctuary waters pose risks to human health?			
4	What are the levels of human activities that may influence water quality and how are they changing?			
HABITAT				
5	What is the abundance and distribution of major habitat types and how is it changing?			
6	What is the condition of biologically-structured habitats and how is it changing?			
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?			
8	What are the levels of human activities that may influence habitat quality and how are they changing?			
LIVING RESOURCES				
9	What is the status of biodiversity and how is it changing?			
10	What is the status of environmentally sustainable fishing and how is it changing?			
11	What is the status of non-indigenous species and how is it changing?			
12	What is the status of key species and how is it changing?			
13	What is the condition or health of key species and how is it changing?			
14	What are the levels of human activities that may influence living resource quality and how are they changing?			
MARITIME ARCHAEOLOGICAL RESOURCES				
15	What is the integrity of known maritime archaeological resources and how is it changing?	?	?	?
16	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?		—	—
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?	—

Condition Reports Structure

- Site History & Resources
- Pressures (Stressors & Issues) on the Sanctuary
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Report Development and Review Process



Photo: R. Schwemmer

Response to Pressures

- Runoff of pollutants and contaminants
 - Water quality action plans
 - Volunteer water quality monitoring programs
- Marine Debris
 - Beach COMBERS
 - Identification and removal of lost fishing gear
- Vessel traffic
 - New vessel traffic routes
- Non-native species
 - Research project monitoring and removing *Undaria*



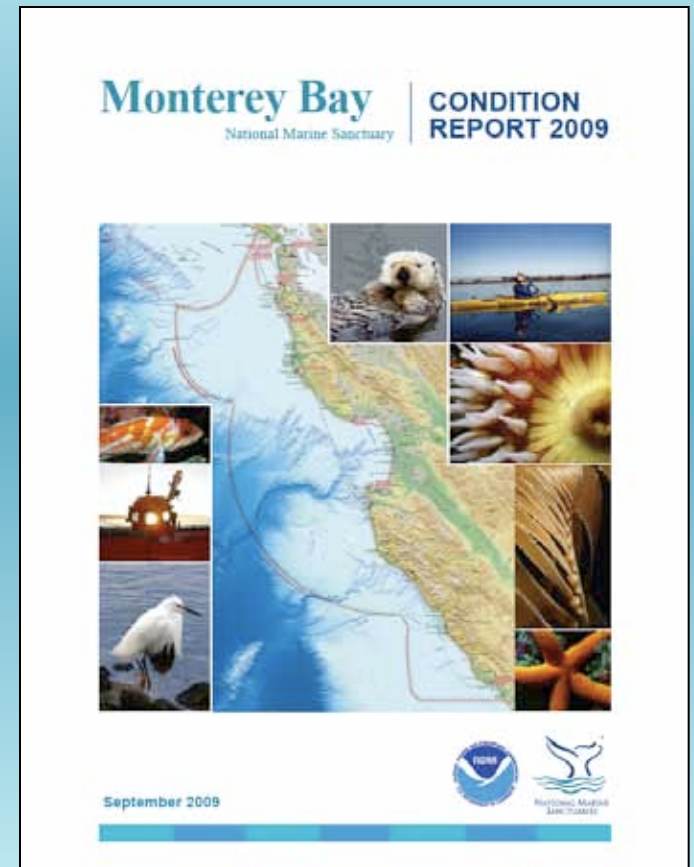
Summary

- First report to summarize condition and trends in marine resource of the Monterey Bay sanctuary
- Illustrated many areas where more data are needed
- Commulative impacts are common and need to be better understood
- Population growth and emerging issues, such as climate change, could be significant
- Continued emphasis on collaborative solutions
- Expect revision in 5 years



Release of Report

- Electronic version of report available on National Marine Sanctuary program website (as of 10/1/09)
<http://sanctuaries.noaa.gov/science/condition/mbnms/>
- Announcement and link to report on MBNMS and SIMoN websites
- Hard copies will be available in approximately 3 weeks.



Monterey Bay

National Marine Sanctuary

CONDITION
REPORT 2009



September 2009



West Coast Region

'Report Card'

Status:					
GOOD	GOOD/FAIR	FAIR	FAIR/POOR	POOR	UNDET.
Trends:					
—	Conditions appear to be improving				
-	Conditions do not appear to be changing.				
?	Conditions appear to be declining.				
N/A	Undetermined trend.				
	Question not applicable.				

Status of Resources		West Coast Region							
		Olympic Coast	Cordell Bank	Gulf of the Farallones		Monterey Bay			Channel Islands
				Coastal and Offshore	Estuarine and Lagoon	Offshore	Nearshore	Estuarine	
WATER									
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality and how are they changing?	?	?	■	?	■	■	■	?
2	What is the eutrophic condition of sanctuary waters and how is it changing?	■	■	?	?	■	■	■	■
3	Do sanctuary waters pose risks to human health and how are they changing?	■	■	■	?	?	?	?	■
4	What are the levels of human activities that may influence water quality and how are they changing?	■	?	■	■	■	?	?	■
HABITAT									
5	What is the abundance and distribution of major habitat types and how is it changing?	■	?	■	■	?	■	■	?
6	What is the condition of biologically structured habitats and how is it changing?	?	?	?	■	?	■	■	■
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	■	?	■	?	■	■	■	■
8	What are the levels of human activities that may influence habitat quality and how are they changing?	■	■	■	■	■	?	■	■
LIVING RESOURCES									
9	What is the status of biodiversity and how is it changing?	?	■	■	■	?	?	?	?
10	What is the status of environmentally sustainable fishing and how is it changing?	■	■	■	■	■	■	■	■
11	What is the status of non-indigenous species and how is it changing?	■	?	■	?	■	■	■	■
12	What is the status of key species and how is it changing?	?	■	?	■	■	■	■	■
13	What is the condition or health of key species and how is it changing?	?	■	■	?	■	■	?	?
14	What are the levels of human activities that may influence living resource quality and how are they changing?	■	■	■	■	■	■	?	■
MARITIME ARCHAEOLOGICAL RESOURCES									
15	What is the integrity of maritime archaeological resources and how is it changing?	?	?	?	?	?	?	?	■
16	Do maritime archaeological resources pose an environmental hazard and is this threat changing?	■	?	■	■	■	■	■	■
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	?	?	?	?	?	?	■	■

